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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

CRAIG MILLER, et al.

Serial No.: 10/707,126

Filed: November 21, 2003

For: SHEET METAL HEM (as amended)

Attorney Docket No.: 81091282/FMC1661PUS

Group Art Unit: 3679

Examiner: Ferguson, Michael P.

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
U.S. Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an Appeal Brief from the final rejection of claims 1-6 & 9 of the Office Action mailed on August 1, 2005 for the above-identified patent application.

**I. REAL PARTY IN INTEREST**

The real party in interest is Ford Global Technologies, LLC ("Assignee"), a corporation organized and existing under the laws of the state of Delaware, and having a place of business at One Parklane Boulevard, Suite 600, Parklane Towers East, Dearborn, Michigan 48121, as set forth in the assignment recorded in the U.S. Patent and Trademark Office on November 21, 2003 at Reel 014148/Frame 0148.

**CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8 (FIRST CLASS MAIL)**

I hereby certify that this paper, including all enclosures referred to herein, is being deposited with the United States Postal Service as first-class mail, postage pre-paid, in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on:

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## **II. RELATED APPEALS AND INTERFERENCES**

There are no appeals or interferences known to the Appellant, the Appellant's legal representative, or the Assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

## **III. STATUS OF CLAIMS**

Claims 1-6 & 9 are pending in this application. Claims 7-8 and claims 10-14 have been withdrawn from consideration pursuant to the Examiner's Restriction Requirement. Claims 1-6 & 9 have been rejected and are the subject of this appeal.

## **IV. STATUS OF AMENDMENTS**

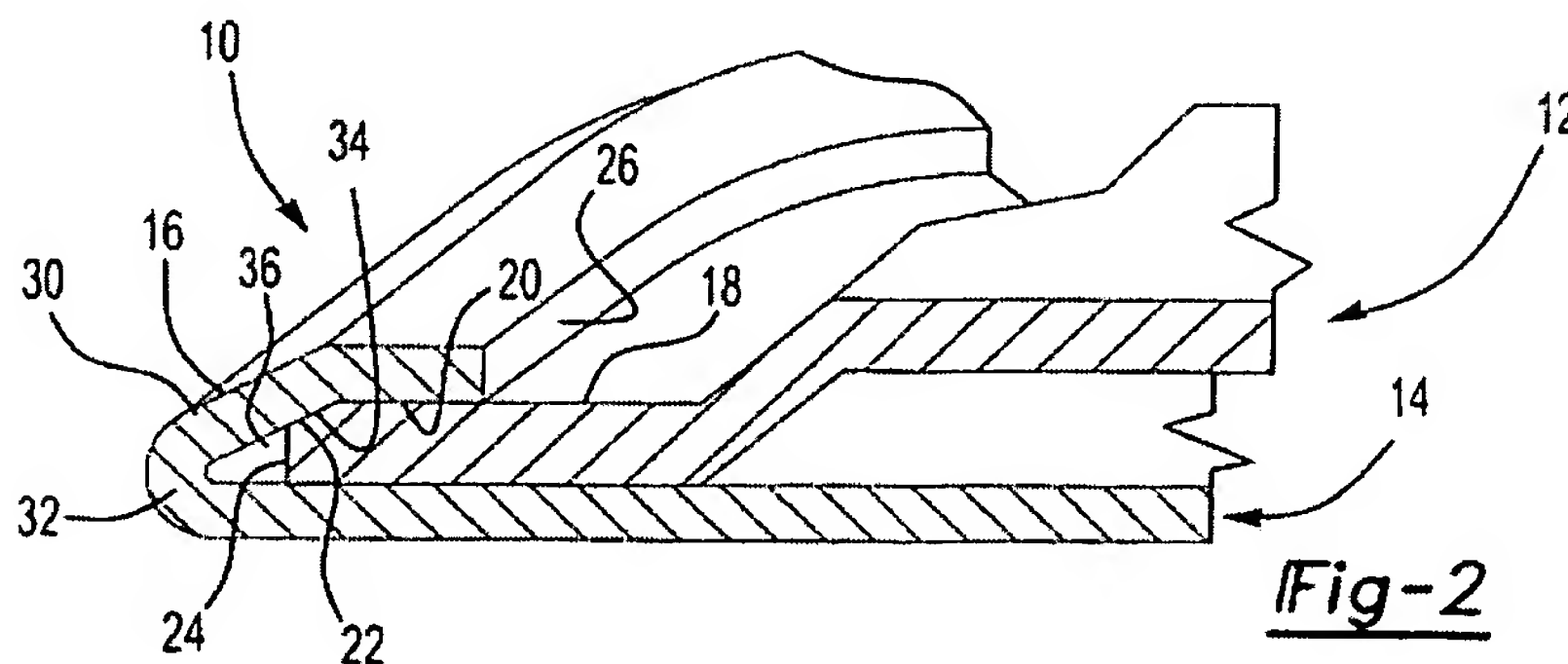
Amendments filed on May 12, 2005 and November 1, 2005 have been entered.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

### **A. Independent Claim 1 and its Dependent Claims**

#### **1) Independent Claim 1**

Independent claim 1 is directed to a reduced radius hem assembly 10 in which an inner panel 12 is specially formed to include a beveled surface 22 and an outer panel 14 that has a perimeter flange 18 that is hemmed over the inner panel, as described on page 6, line 28 through page 7, line 20 ([0023]-[0024]). The inner panel 12 includes an inner surface 34 and an outer surface on opposite parallel sides that are spaced apart by the thickness of the inner panel (see Fig. 2). The inner panel 12 has an outwardly extending perimeter flange 18, which terminates as an end



24 disposed in a first plane (see, Fig. 2). The end 24 has a height dimension that is less than the thickness of the inner panel 18, the inner surface lying in a second plane that is generally perpendicular to the end 24 (see, Fig. 2) and a beveled surface 22 located between and contiguous with the end 24 and the inner surface 34. The beveled surface 34 is disposed inboard of the intersection of the first and second planes.

The outer panel 14 has a peripheral edge 16, which comprises a bend portion 32, an intermediate portion 30, and an end portion 26. The intermediate portion 30 is adjacent to the beveled surface of the perimeter flange and the end portion overlies a portion of the inner surface 22 of the perimeter flange 18. The invention is illustrated by Figures 2-6 of the drawings. Figure 2 is reproduced above.

**2) Dependent Claim 2**

Claim 2 is dependent upon claim 1. It is directed to the thickness of the inner panel 12 being greater than the thickness of the outer panel 14, as best shown in Fig. 6.

**3) Dependent Claim 3**

Claim 3 is also dependent upon claim 1. It is directed to the inner panel 12 comprising a magnesium composite material, as disclosed in original claim 3 as filed ([c3]).

**4) Dependent Claim 4**

Claim 4 is dependent upon claim 1. It is directed the perimeter flange 18 of the inner panel 12 being provided with a beveled surface 22 that extends across a portion of the perimeter flange 18, as best shown in Fig. 2.

**5) Dependent Claim 5**

Claim 5 is dependent upon claim 4. It is directed to the hem assembly including areas that define cut lines and where the beveled surface is provided in the areas defining cut lines, as disclosed on page 7, line 30 - page 8, line 6 ([0026]).

**6) Dependent Claim 6**

Claim 6 is dependent upon claim 4. It is directed to the hem assembly 10 including areas that define surface curvature and where the beveled surface 22 is provided in the areas defining surface curvature, as shown in Fig. 2 and disclosed on page 7, line 30 - page 8, line 4 ([0026]).

**B. Independent Claim 9**

Independent claim 9 recites a reduced radius hem 10 for an inner sheet form panel 12 formed panel that is hemmed by an outer panel 14, as described on page 6, col. 28 through page 7, col. 20 ([0023]-[0024]). The inner panel 12 has an outwardly extending peripheral flange 18 having a nominal thickness. The peripheral flange 18 comprises an end 24, that has a height that is less than the nominal thickness of the flange, an inboard surface 20, that is perpendicular to the end, and a beveled surface 22, which is located between and contiguous with both the end and the inboard surface. The beveled surface 22 disposed in a plane that is recessed relative to the end and the inboard surface. The outer panel has a peripheral edge 16 comprising a bend portion 32, an intermediate portion 30, and an end portion 26. The beveled surface 22 at least partially receives the intermediate portion 30 of the peripheral edge of the outer panel. The reduced radius hem is illustrated in the drawings of Figures 2-6.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1, 2, 4-6 and 9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Morefield, U.S. Patent No. 6,536,983. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Morefield in view of Hobbs et al., U.S. Patent No. 5,613,726.

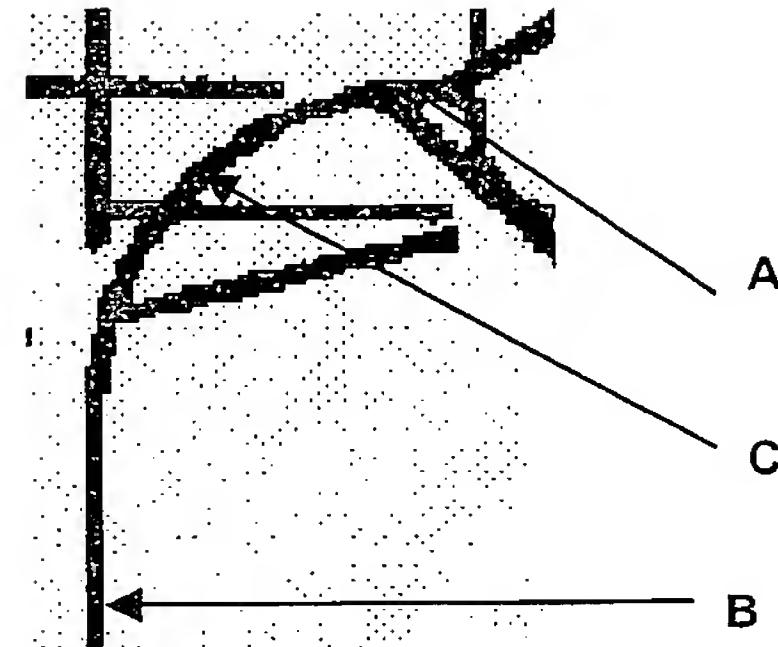
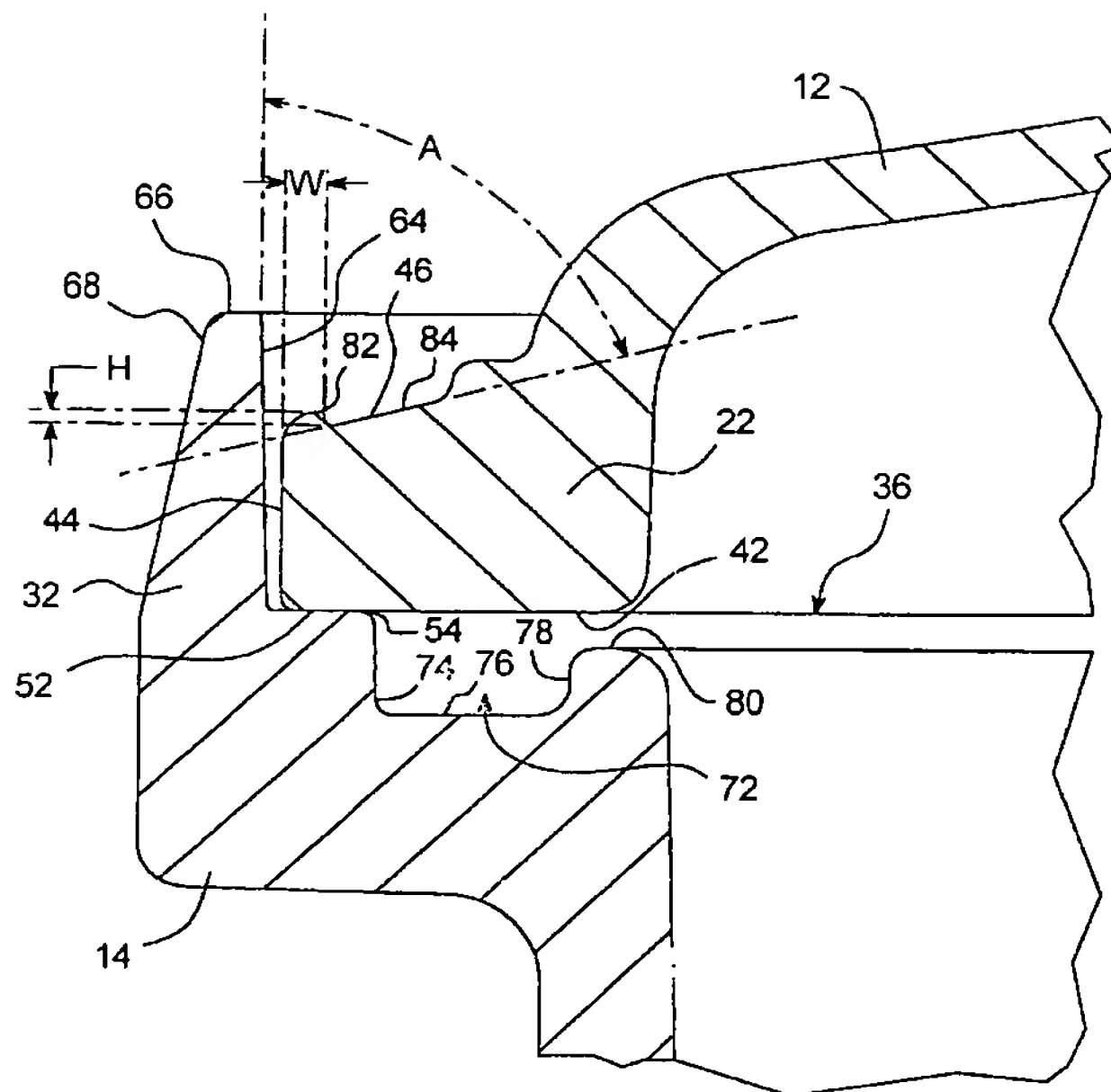
## **VII. ARGUMENT**

### **A. Claims 1, 2, 4-6 And 9 Are Patentable Under 35 U.S.C. § 102(e) Over U.S. Patent No. 6,536,983**

The Morefield patent is directed to a crimp joint for pressure containing gas and fluid distribution systems. In contrast, Applicants' claims are directed to a reduced radius hem assembly for joining an inner panel and an outer panel together. It is respectfully submitted that the Examiner's tortured reading of the Morefield reference fails to support his position that claims 1-2, 4-6 and 9 are anticipated by the Morefield patent. By focusing on, magnifying, and fragmenting a discrete feature depicted in the Morefield patent, the Examiner distorts Morefield, severing that feature from its context in an effort to construe the bonnet 12 of the Morefield patent as an inner panel. However, the bonnet is not a panel at all, but is part of a gas regulator for an LP gas system.

As just stated, the Examiner supports his position with an annotated drawing that is a magnified fragmentary portion of Figure 6 of the Morefield patent. Set forth below is a side-by-side comparison of Figure 6 from the Morefield patent and the annotated drawing that the Examiner uses to reject the Applicants' claims.

**FIG. 6**



Examiner's annotated  
drawing

The Examiner's magnification distorts the disclosure of the Morefield patent by taking a small feature (a bead) and blowing it up until it looks like the upper surface of a panel. In actuality, Morefield does not even disclose a panel. Moreover, the Morefield patent fails to disclose each and every limitation of the claimed invention and, therefore, cannot constitute anticipation of the claimed invention.

Referring to the Examiner's drawing, above, the Examiner identifies the portion of the bead annotated with the letter "A" as corresponding to the inner surface of claim 1 and the portion of the bead annotated with the letter "C" as corresponding to the beveled surface of claim 1. This argument falls apart once it is recognized that the bead that the Examiner magnified is merely a protrusion from the actual upper surface 84 (Morefield patent, Fig. 6). Upper surface 84 is the analogous surface to the inner surface 18 of the claimed invention. The Examiner ignores this surface because it does not define the parallel surface relative to the outer surface 42 in the Morefield patent. Rather, surface 84 is inclined at an angle A as shown



in the unedited view of Figure 6 from the Morefield patent (above).

The Morefield patent also fails to anticipate the beveled surface required by claim 1 — “A **beveled surface** located between and contiguous with the end and inner surface, the beveled surface being disposed inboard of the intersection of the first and second planes.” To support his rejection based on anticipation, the Examiner relies on a curved portion of Figure 6 (identified with the reference letter C in the Examiner’s drawing). The Examiner’s construction fails because there is no beveled surface disposed inboard of the intersection of the first and second planes. A “bevel” is defined as “the angle that one surface or line makes with another when they are not at right angles.” WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY (1986). There is no support for the Examiner’s theory that the curved surface disclosed in Morefield is a beveled surface.

Furthermore, even if a curved surface could be a beveled surface, the Examiner’s drawing fails to disclose a “first plane” that is generally perpendicular to a second plane. The first plane defined in the patent claim is the plane in which the end of the inner panel is located and the second plane is defined as the inner surface of the inner panel that is generally perpendicular to the end. In the Morefield patent, the inner surface, identified by the Examiner as the uppermost portion of the curve C, does not level off to a flat plane. Therefore, the “inner surface” is not lying in a second plane that is generally perpendicular to the end surface.

In addition to resting the rejection on a fragmented view, taken out of context, the Examiner improperly relies on a single curved surface to meet three separate claim elements to three planar surfaces: an inner surface A; an end B disposed in a first plane; and a beveled surface C that is located between and contiguous with end B and inner surface A. Is it reasonable for the Examiner to take the position that a curved surface anticipates three planar surfaces?

Claim 1 also requires that the beveled surface be “located between and contiguous with the end and the inner surface.” As shown in Figure 6 of the Morefield reference, the bead 82 (which the Examiner incorrectly identifies as the beveled surface of Applicants’ claim 1) is not located between and contiguous with the end 44 and the upper surface 84. Rather, it protrudes above, and is not contiguous with surface 84.

Claim 1 also requires that the beveled surface be “disposed inboard of the intersection of first and second planes.” In the Morefield patent, the bead 82 (incorrectly relied on by the Examiner to serve as the beveled surface) is disposed outboard, not inboard, of the intersection of inner surface 84 and end 44.

In view of the foregoing, the Morefield patent does not anticipate Applicants’ invention as claimed in claim 1. The Examiner’s rejection should be reversed.

**Claim 2 Is Not Anticipated By The Morefield Patent**

In addition to all the reasons why independent claim 1 is not anticipated by the Morefield patent, claim 2 is not anticipated by the Morefield patent for the following reasons. Claim 2 specifies that the thickness of the inner panel is greater than the thickness of the outer panel. The Examiner states that, as shown in the Morefield patent, the thickness of the inner panel 12 (at flange 22) is greater than the thickness of the outer panel 14. The Examiner’s remarks on this pipe fitting reference are inapposite because, while claim 2 specifies the relative thickness of two “panels,” the Morefield patent discloses a non-analogous structure that is divided into arbitrary sections to support his flawed anticipation argument. Claim 2 is not anticipated by the Morefield patent because the Morefield patent has nothing to do with either an inner or an outer panel. The bonnet 12 and body 14 of the gas regulator 10 disclosed in Morefield cannot be construed to be panels of different thickness as required by claim 2.



**Claim 4 Is Not Anticipated By The Morefield Patent**

In addition to all the reasons why independent claim 1 is not anticipated by the Morefield patent, claim 4 is not anticipated by the Morefield patent for the following reasons. Claim 4 is directed to a reduced radius hem assembly having a perimeter flange of the inner panel that is provided with a **beveled surface** that extends across a portion of the perimeter flange. The Examiner's anticipation position relies upon flawed reasoning that Morefield discloses a hem assembly and refers to the central portion of a bead 82 that is a radiused bead. The Morefield patent does not disclose a distinct beveled surface as claimed in claim 4 and as shown at reference numeral 22 in the drawings of the application. It is respectfully submitted that the beveled surface C indicated by the Examiner is not a beveled surface at all, but is a radiused bead that utterly fails to anticipate Applicants' claimed invention.

**Claim 5 Is Not Anticipated By The Morefield Patent**

Claim 5 is directed to a hem assembly that includes areas that define cut lines and wherein the beveled surface is provided in the areas defining cut lines. This limitation is supported by the specification at paragraph 26 which states:

The invention may be practiced on all or only a portion of a hem assembly 10. For example, a door may have straight hem areas that are simple to form and cut lines or curved areas that are difficult to form. The beveled surface 22 may be formed on the perimeter flange 18 of the inner panel 12 only where the difficult to form cut lines and curved surfaces exist to eliminate hemming problems. The beveled surface 22 could also be formed in straight hem areas to improve overall craftsmanship of the body panel.

The Examiner's comment on claim 5 is based upon an inherency argument wherein the Examiner states that inner and outer panels 12, 14 (that are actually the bonnet 12 and body 14 of the gas regulator 10) are cut from larger sheets of material. The Examiner's construction of the Morefield patent is simply incorrect. The Morefield patent itself states, at

column 4, lines 15-17:

The bonnet 12 and the body 14 are **die cast** from a low ductility zinc alloy.

(Emphasis added.)

The bonnet and body are not cut from larger sheets of material, they are expressly stated to be die cast. There is no disclosure in Morefield of a beveled surface that is provided in the areas defining cut lines. As such, claim 5 is not anticipated by the Morefield patent.

**Claim 6 Is Not Anticipated By The Morefield Patent**

In addition to all the reasons why independent claim 1 is not anticipated by the Morefield patent, claim 6 is not anticipated by the Morefield patent for the following reasons. Claim 6 depends from claim 4 that states that the beveled surface is provided on the inner panel and further specifies that the beveled surface is provided in the areas defining surface curvature. To reject claim 6, the Examiner simply states that Morefield discloses a hem assembly wherein the hem assembly includes areas that define surface curvature and wherein the beveled surface is provided in areas defining surface curvature. The crimp joint 20 between the bonnet 12 and body 14 of the Morefield patent does not include an area that defines surface curvature. As seen in Figure 1 of the Morefield patent, the crimp joint is in a single plane that does not define surface curvature in areas where the beveled surface is provided.

**Claim 9 Is Not Anticipated By The Morefield Patent**

Claim 9 is directed to an inner sheet formed panel that is hemmed by an outer panel. The inner panel has a peripheral flange having a nominal thickness. The peripheral flange comprises an end that has a height that is less than the nominal thickness of the flange. The flange has an inboard surface that is perpendicular to the end and a beveled surface that is located between and contiguous with both the end surface and the inboard surface. The

beveled surface is disposed in a plane that is recessed relative to the end and inboard surface. Claim 9 further states that the outer panel has a peripheral edge that includes an intermediate portion that is received by the beveled surface. Claim 9 is not anticipated by the Morefield patent for all of the reasons set forth above concerning claim 1.

In addition, the Examiner's position with regard to claim 9 being anticipated rests on the bonnet 12 of the Morefield patent being an inner panel — it is not. The inner panel, as claimed, has a peripheral flange having a nominal thickness. The Morefield patent discloses a flange that does not have a nominal thickness, but is tapered as shown by the surface 84 and indicated by phantom lines in Figure 6 of the Morefield patent.

The Examiner again relies upon his division of bead 82 of the Morefield patent into a peripheral flange that comprises an end B, an inboard surface A and is perpendicular to the end and a beveled surface C located between the end and inboard surfaces. Fairly read, the Morefield patent merely discloses a simple radiused bead 82 and does not correspond to the tortured reading required by the Examiner's analysis that breaks the bead 82 into an end, an inboard surface and a beveled surface. The Morefield patent does not disclose a beveled surface at reference letter C, let alone one that is recessed relative to an end and an inner surface as specified in claim 9.

The Morefield patent does not even come close to anticipating claim 9 and the Examiner's rejection should be reversed.

**B. Claim 3 is Patentable Under 35 U.S.C. § 103(a)  
Over The Proposed Combination Of U.S.  
Patent 6,536,983 And U.S. Patent No. 5,613,726**


Turning now to the Examiner's rejection of claim 3 under 35 U.S.C. § 103(a), claim 3 is directed to an inner panel that is comprised of magnesium composite material. To reject claim 3, the Examiner proposes a combination of Morefield and Hobbs et al. for Hobbs'

disclosure of a sheet metal panel made up of a magnesium composite material. The Hobbs patent discloses a slat structure for a trailer that discloses aluminum alloy slats that have .05% to 1.2% by weight magnesium. The Hobbs patent does not otherwise supplement or teach or suggest Applicants' invention when combined with the Morefield patent as distinguished above. The Hobbs reference relates to an improved trailer slat for a livestock trailer, while the Morefield patent relates to a crimp joint 20 for a gas regulator 10 of an LP gas system. These patents do not concern analogous art, nor do they suggest or teach combining them with one another as suggested by the Examiner.

The Examiner's rejection of claim 3 is manifestly improper and should be reversed.

Please charge the fee of \$500.00 as applicable under the provisions of 37 C.F.R. § 41.20(b)(2), as well as any additional fee or credit any overpayment in connection with this filing to Ford Global Technologies, LLC, Deposit Account No. 06-1510.

Respectfully submitted,  
**CRAIG MILLER, et al.**

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Date: July 5, 2006

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Enclosure - Appendices



### VIII. CLAIMS APPENDIX

1. A reduced radius hem assembly comprising:  
an inner panel including an inner surface and an outer surface on opposite parallel sides that are spaced apart by the thickness of the inner panel, the inner panel having an outwardly extending perimeter flange terminating as an end disposed in a first plane the end having a height dimension that is less than the thickness of the inner panel, the inner surface lying in a second plane that is generally perpendicular to the end, and a beveled surface located between and contiguous with the end and the inner surface, the beveled surface being disposed inboard of the intersection of the first and second planes; and  
an outer panel having a peripheral edge comprising a bend portion, an intermediate portion, and an end portion wherein the intermediate portion is adjacent to the beveled surface of the perimeter flange and the end portion overlies a portion of the inner surface of the perimeter flange.
2. The reduced radius hem assembly of claim 1 wherein the thickness of the inner panel is greater than the thickness of the outer panel.
3. The reduced radius hem assembly of claim 1 wherein the inner panel comprises a magnesium composite material.
4. The reduced radius hem assembly of claim 1 wherein the perimeter flange of the inner panel is provided with the beveled surface that extends across a portion of the perimeter flange.
5. The reduced radius hem assembly of claim 4 wherein the hem assembly includes areas that define cut lines and wherein the beveled surface is provided in the areas defining cut lines.

6. The reduced radius hem assembly of claim 4 wherein the hem assembly includes areas that define surface curvature and wherein the beveled surface is provided in the areas defining surface curvature.

9. A reduced radius hem for an inner sheet form panel that is hemmed by an outer panel, the inner panel having an outwardly extending peripheral flange having a nominal thickness, the peripheral flange comprising an end that has a height that is less than the nominal thickness of the flange, an inboard surface that is perpendicular to the end, and a beveled surface located between and contiguous with both the end and the inboard surface, the beveled surface disposed in a plane that is recessed relative to the end and the inboard surface, the outer panel having a peripheral edge comprising a bend portion, an intermediate portion, and an end portion whereby the beveled surface at least partially receives the intermediate portion of the peripheral edge of the outer panel.



**IX. EVIDENCE APPENDIX**

None.

**X. RELATED PROCEEDINGS APPENDIX**

None.